



**Proceedings of
International Conference on EcoHealth Nexus:
Bridging Cascade Ecology & Human Well-Being
ICEN 2023 - Anuradhapura, Sri Lanka**

19th, 20th, & 21st of December 2023





Proceedings of
International Conference on EcoHealth Nexus:
Bridging Cascade Ecology and Human Well-Being

ICEN 2023

19th - 21st December 2023

Rajarata University of Sri Lanka
Mihintale, Sri Lanka
2023

**Proceedings of International Conference on EcoHealth Nexus:
Bridging Cascade Ecology and Human Well-Being**

ICEN 2023

No part of the material protected by this copyright may be reproduced or utilized in any form or by any means without the prior written permission of the copyright owners unless the use is fair dealing for the purpose of private study, education, research and review. The authors reserve the right that their material can be used to use their material for purely educational and research purposes.

© 2023 Rajarata University of Sri Lanka
All rights reserved.

The authors are responsible for the content of the papers.

Published by:
Rajarata University of Sri Lanka
Mihintale 50300
Sri Lanka

Telephone: (+94)25 226 6643
Fax: (+94)25 226 6512

Web: <https://www.rjt.ac.lk>
ISBN: 978-624-5884-25-4

To Cite this Proceedings;

[Author(s) name], (2023). Title of the Abstract. In Proceedings of International Conference on EcoHealth Nexus: Bridging Cascade Ecology and Human Well-Being. Abstract presented at the International Conference on EcoHealth Nexus: Bridging Cascade Ecology and Human Well-Being, held on 19th – 21st December 2023 (pp. [x-y]). Anuradhapura, Sri Lanka.

Cover design and page layout by: Mr. A.A.L.C. Perera

Editors-in-Chief

- Prof. N.S. Abeysingha, Faculty of Agriculture, Rajarata University of Sri Lanka
- Dr. N. Geekiyanage, Faculty of Agriculture, Rajarata University of Sri Lanka

Editorial Board

- Prof. C.R. Withanachchi, Faculty of Social Sciences and Humanities, Rajarata University of Sri Lanka
- Prof. W.A.D. Nayananjali, Faculty of Agriculture, Rajarata University of Sri Lanka
- Prof. Sriyani Wickramasinghe, Faculty of Applied Sciences, Rajarata University of Sri Lanka
- Prof. M.H.J.P. Gunarathna, Faculty of Agriculture, Rajarata University of Sri Lanka
- Prof. M.K.N. Kumari, Faculty of Agriculture, Rajarata University of Sri Lanka
- Prof. N.K. Anjana Silva, Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka
- Dr. S.M.C.B. Karalliyadda, Faculty of Agriculture, Rajarata University of Sri Lanka
- Dr. J.S. Kumari, Faculty of Management Studies, Rajarata University of Sri Lanka
- Dr. Prasad Tharanga Jayasooriya, Faculty of Technology, Rajarata University of Sri Lanka

Advisory Committee

- Prof. (Mrs.) G.A.S. Ginigaddara, Vice Chancellor, Rajarata University of Sri Lanka
- Prof. M.H.J.P. Gunarathna, Conference Chair, Rajarata University of Sri Lanka
- Mr. K.A.I.D. Silva, National Project Manager, Healthy Landscape Project

Conference Chair

- Prof. M.H.J.P. Gunarathna, Faculty of Agriculture, Rajarata University of Sri Lanka

Organizing Committee

- Prof. M.H.J.P. Gunarathna, Conference Chair, ICEN 2023
- Dr. (Ms.) Jayaruwani Fernando, Faculty of Agriculture, Rajarata University of Sri Lanka
- Dr. K.B. Ukuwela, Faculty of Applied Sciences, Rajarata University of Sri Lanka
- Dr. H.M.B.P. Ranaweera, Faculty of Management Studies, Rajarata University of Sri Lanka
- Dr. Lahiru Wijeratne, Faculty of Medicine and Allied Sciences, Rajarata University of Sri Lanka
- Dr. W.M.S.B. Wanninayake, Faculty of Social Sciences and Humanities, Rajarata University of Sri Lanka
- Dr. Lahiru Jayasuriya, Faculty of Technology, Rajarata University of Sri Lanka
- Mr. Dharshana Gunarathne, Environmental Officer, Ministry of Environment

Panel of Reviewers

- Prof. A.M.J.B. Adikari, Department of Animal and Food Sciences, Rajarata University of Sri Lanka
- Prof. W.A.D. Nayananjalie, Department of Animal and Food Sciences, Rajarata University of Sri Lanka
- Prof. G.A.S. Ginigaddara, Department of Agricultural Systems, Rajarata University of Sri Lanka
- Prof. M.H.J.P. Gunarathna, Department of Agricultural Engineering and Soil Science, Rajarata University of Sri Lanka
- Prof. N.S. Abeysingha, Department of Agricultural Engineering and Soil Science, Rajarata University of Sri Lanka
- Prof. M.G.T.S. Amarasekara, Department of Agricultural Engineering and Soil Science, Rajarata University of Sri Lanka
- Prof. M.K.N. Kumari, Department of Agricultural Engineering and Soil Science, Rajarata University of Sri Lanka
- Dr. D.M.S. Duminda, Department of Agricultural Engineering and Soil Science, Rajarata University of Sri Lanka
- Dr. L.P. Rupasena, Department of Agricultural Systems, Rajarata University of Sri Lanka
- Dr. D.A.U.D. Devasinghe, Department of Plant Sciences, Rajarata University of Sri Lanka
- Dr. Chaminda Egodawatta, Department of Plant Sciences, Rajarata University of Sri Lanka
- Dr. S.M.C.B. Karalliyadda, Department of Agricultural Systems, Rajarata University of Sri Lanka
- Dr. Nalaka Geekiyanage, Department of Plant Sciences, Rajarata University of Sri Lanka
- Dr. (Ms.) Jayaruwani Fernando, Department of Agricultural Engineering and Soil Science, Rajarata University of Sri Lanka
- Dr. (Mrs.) R.H.G.R. Wathsala, Department of Animal and Food Sciences, Rajarata University of Sri Lanka
- Mrs. Rasika Warnasooriya, Department of Plant Sciences, Rajarata University of Sri Lanka
- Mrs. J.P.H.U. Jayaneththi, Department of Agricultural Engineering and Soil Science, Rajarata University of Sri Lanka
- Mrs. K.G.S. Nirmanee, Department of Agricultural Engineering and Soil Science, Rajarata University of Sri Lanka
- Mr. A.I.Y. Lankapura, Department of Agricultural Systems, Rajarata University of Sri Lanka
- Mrs. Chamindi Dissanayake, Department of Animal and Food Sciences, Rajarata University of Sri Lanka
- Prof. C.R. Withanachchi, Department of Archaeology and Heritage Management, Rajarata University of Sri Lanka
- Prof. Manajula Ranagalage, Department of Environmental Management, Rajarata University of Sri Lanka

- Prof. D.M.S.L.B. Dissanayake, Department of Environmental Management, Rajarata University of Sri Lanka
- Dr. P.S.K. Rajapakshe, Department of Environmental Management, Rajarata University of Sri Lanka
- Dr. W.M.T.B. Wijepala, Department of Archaeology and Heritage Management, Rajarata University of Sri Lanka
- Dr. W.M.S.B. Wanninayake, Department of Environmental Management, Rajarata University of Sri Lanka
- Mrs. M.M.S.A. Marasinghe, Department of Environmental Management, Rajarata University of Sri Lanka
- Prof. Sriyani Wickramasinghe, Department of Biological Sciences, Rajarata University of Sri Lanka
- Prof. W.H.M.S. Samarathunga, Department of Tourism & Hospitality Management, Rajarata University of Sri Lanka
- Prof. Anjana Silva, Department of Parasitology, Rajarata University of Sri Lanka
- Prof. Kosala Weerakoon, Department of Parasitology, Rajarata University of Sri Lanka
- Dr. Suchetha Charukeshi Illapperuma, Department of Microbiology, Rajarata University of Sri Lanka
- Dr. Chandana Hewawasam, Department of Physiology, Rajarata University of Sri Lanka
- Dr. M.I. Mohamed Shuja, Department of Physiology, Rajarata University of Sri Lanka
- Dr. Shashanka Rajapakse, Department of Physiology, Rajarata University of Sri Lanka
- Prof. Upali S. Amarasinghe, Department of Zoology and Environmental Management, University of Kelaniya
- Prof. A.D. Ampitiyawatta, Department of Export Agriculture, Sabaragamuwa University of Sri Lanka
- Dr. Himesh Jayasinghe, National Institute of Fundamental Studies
- Dr. Sewwandi Chandrasekara, Department of Agricultural Engineering, University of Peradeniya
- Mrs. Kaushalya Dilanjani, Department of Environmental Management, Rajarata University of Sri Lanka